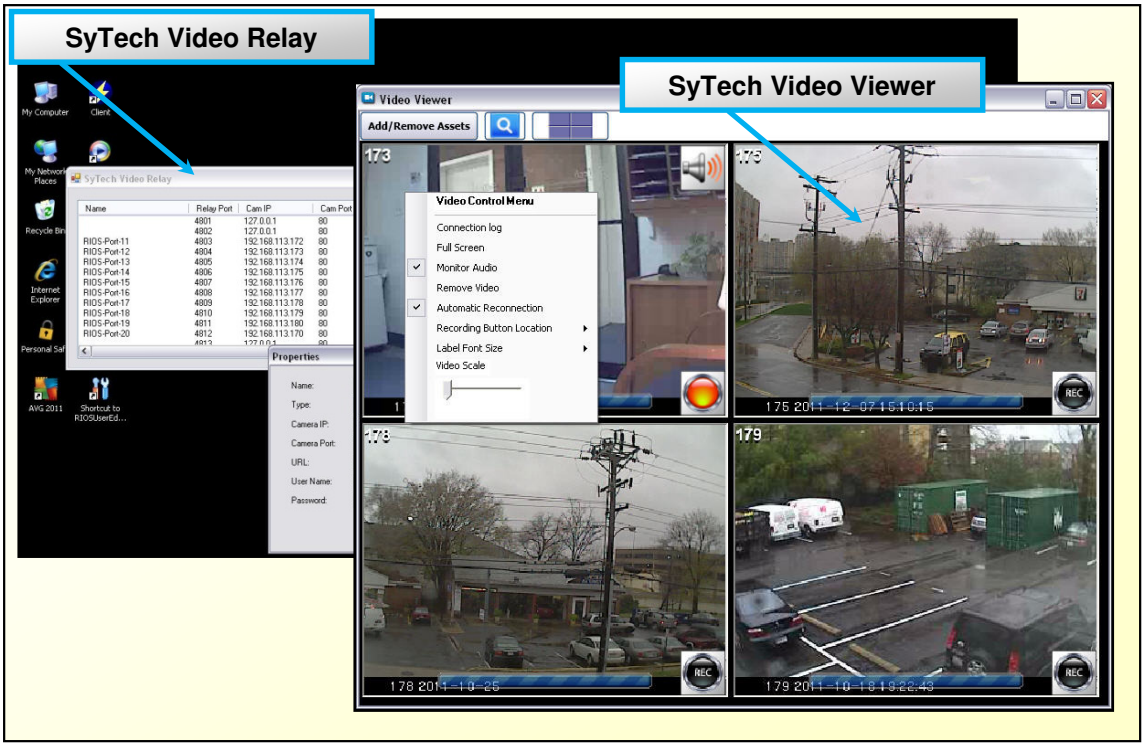
RIOS Video Capabilities

The SyTech **Video Relay** and **Video Viewer** programs allow the user to interface multiple IP video resources and manage their output. Used in conjunction with the SyTech RIOS Graphical User Interface, the user can select IP video sources to view, record, playback and, if available, control pan/tilt/zoom and monitor audio from video feeds equipped with a microphone. The SyTech Video Relay and Viewer operate with H.264/MPEG4 and Motion JPEG from IP cameras as well as smartphones operating the RIOS Lite Application.

The image below displays the Video Relay (back) and Video Viewer Program (front) with four IP video feeds. In this example, a single video feed is being recorded as indicated by the red recording button. The user can right click to access the individual Video Control Menu used to manage various features with the software. Multiple channels can be recorded at once as well as other video viewing and video directing capabilities.



The RIOS Video Relay and Video Viewer Program

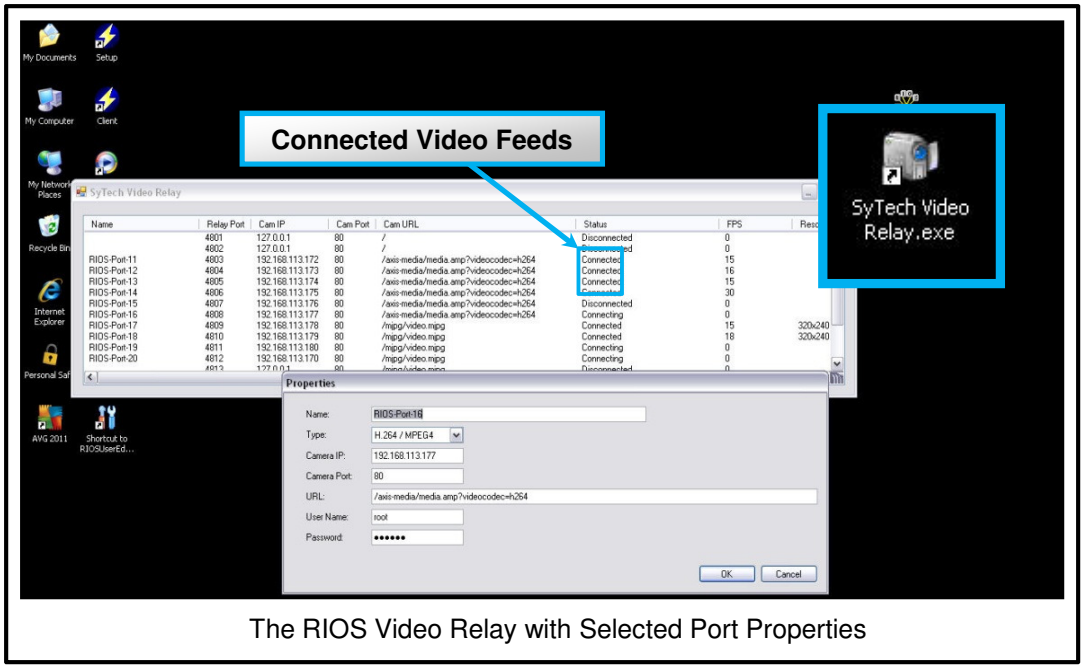
The following document provides a step by step process for configuring the initial set of a camera, connecting and selecting the camera from within the RIOS GUI, and managing videos. These section are outlined as:

- Section 1 - The SyTech Video Relay Program
- Section 2 - The RIOS GUI with Video
- Section 3 - The SyTech Video Playback Program

1.00 - The Video Relay

The SyTech Video Relay acts as the video input mechanism for accepting Motion JPEG and H.264/MEG4 video feeds. Video assets are connected via local area network and/or Wifi and configured to operate in tandem to the corresponding RIOS Virtual Ports within the RIOS Graphical User Interface. This application is require to input the video feeds into the RIOS GUI.

The image below displays the Video Relay Program. To open the VRP, double click the desktop icon as indicated below. The VRP will start and the licensed video ports will be displayed line by line. In this image, the user has double clicked on a licensed video port to bring up the Port Properties window.



The RIOS Video Relay with Selected Port Properties

1.01 - Setting Up a Camera

To set up a camera the user must **first** associate the IP address of the camera with the same network as the RIOS Server. As a default, most RIOS Servers and RIOS Cradlepoint Routers are set to 192.168.0.10 and 192.168.0.1, respectively. If the IP address of the camera is not within this subnet, the user can:

(1) Configure the IP address of the router to match the camera subnet.
(2) Assign a temporary static IP for the computer, disconnect from the router, connect to the camera with a switch, and configure the camera to the correct subnet.

Once accessible from the computer, most cameras are configured with a web browser using the correct IP address. Consult the camera manufacture for more information on specific camera set up.

Either way, all three components **must all be on the same subnet** for proper operation. **When complete, the user should be able to ping the known camera IP address and receive a reply.**

1.02 - Configuring RIOS and the Video Relay

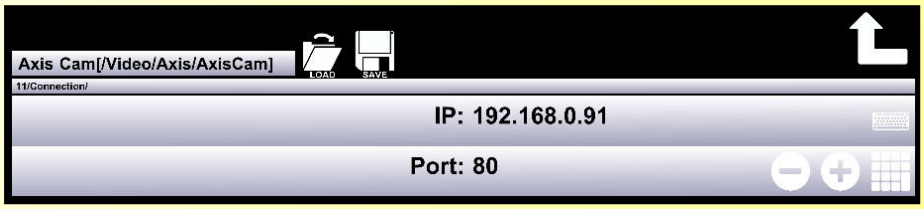
Once the user can ping the camera IP address, the selected Video Relay Port needs to be configured within the Relay and RIOS GUI.

Connect the RIOS GUI and Video Relay

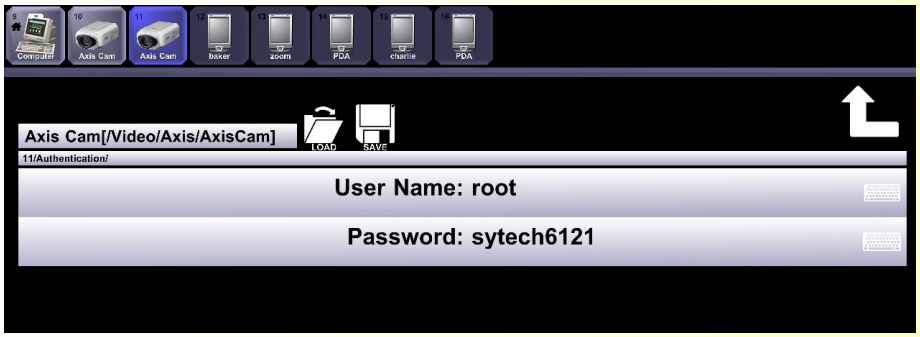
1. Open the RIOS GUI from the Desktop.

2. Select **CONFIG** (bottom right of screen) and the **Video Virtual Port** you wish to configure. Shown below are the settings you will need to configure.

3. Within the **CONNECTION** setting, input the IP address of the camera as configured within the camera manufacturer software. The port can remain at 80.



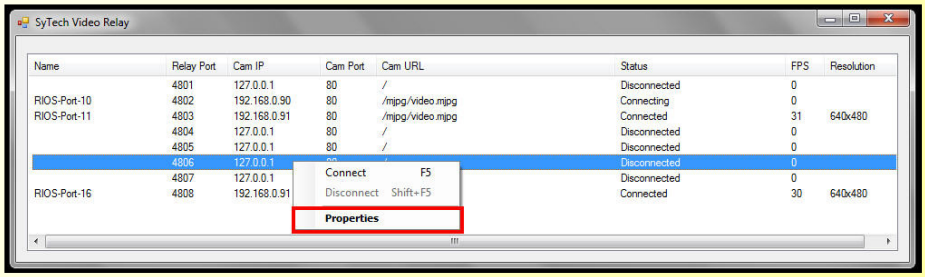
4. Within the **AUTHENTICATION** setting, input the user name and password of the camera as configured within the camera's manufacturer software (if necessary).



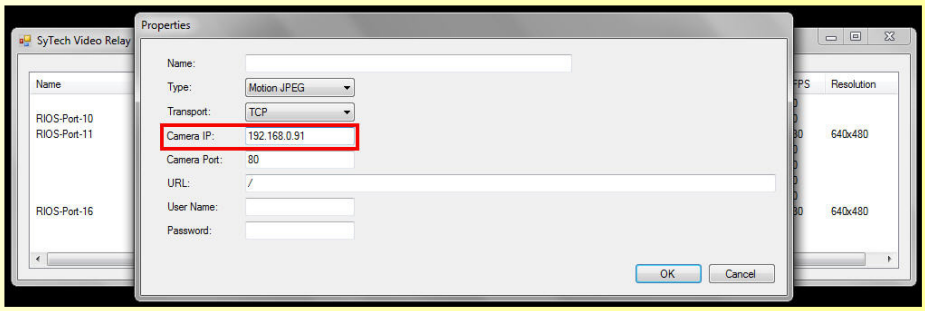
5. Toggle the RELAY CONNECTION setting to the "**Enabled**" position.

6. Start the **Video Relay Program** for the Desktop. If program is not there, it is located in the C:Program Files/RIOS directory.

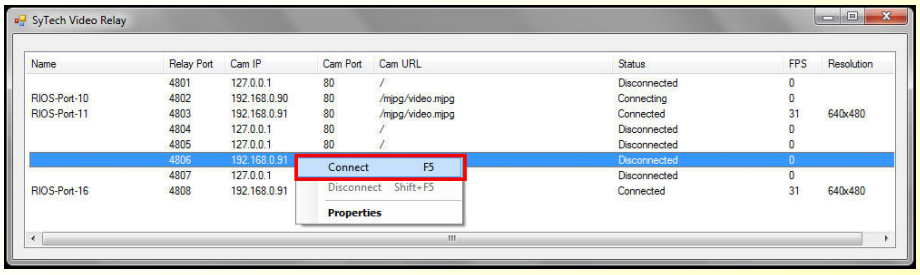
7. Right click the **relay port** that corresponds to the Video Virtual Port you configured within the RIOS GUI. For example, if you configured the *third virtual port* within the GUI (as shown above), configure the third virtual port within the Relay Program. In the case below, the sixth Virtual Port within the RIOS GUI is being configured. Select **PROPERTIES**.



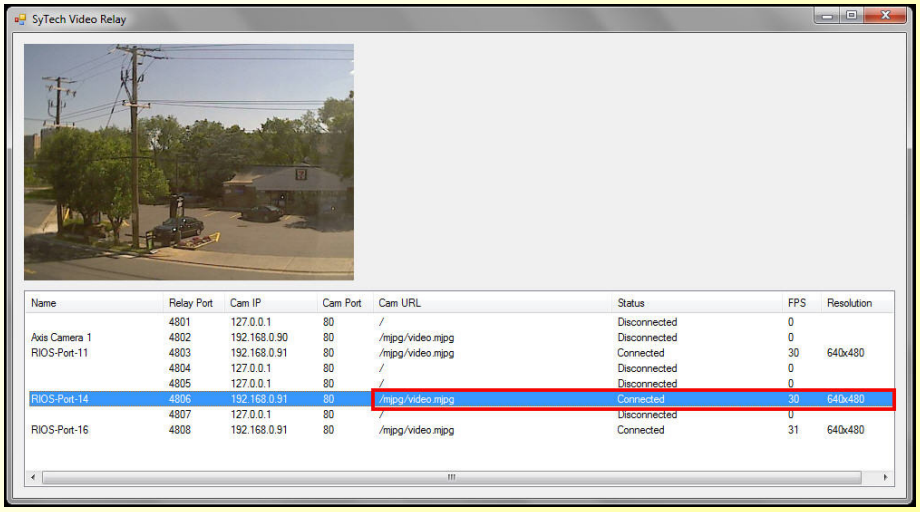
8. Input the **IP address** of the camera. You do not need to fill in any of the other information as RIOS will automatically fill this in. Select **OK**.



9. Select the port you configured, right click, **CONNECT**.



10. The Relay will connect to the camera as shown below. Within the RIOS GUI, the configured Virtual Port will be a solid, purple color.


SyTech Video Relay
Name
Relay Port
Cam IP
Cam Port
Cam URL
Status
FPS
Resolution
4801 127.0.0.1 80 / Disconnected 0
Axis Camera 1 4802 192.168.0.90 80 /mjpg/video.mjpg Disconnected 0
RIOS-Port-11 4803 192.168.0.91 80 /mjpg/video.mjpg Connected 30 640x480
4804 127.0.0.1 80 / Disconnected 0
4805 127.0.0.1 80 / Disconnected 0
RIOS-Port-14 4806 192.168.0.91 80 /mjpg/video.mjpg Connected 30 640x480
4807 127.0.0.1 80 / Disconnected 0
RIOS-Port-16 4808 192.168.0.91 80 /mjpg/video.mjpg Connected 31 640x480

11. Minimize the Video Relay. **DO NOT CLOSE THE RELAY** or the video will not pass into the RIOS GUI.

You should only have to do this once on set up. Next time the computer starts, run the Video Relay to populate video into RIOS. You can place the shortcut into the Windows Startup folder to run the program automatically.

2.00 - The RIOS GUI with Video

The RIOS Graphical User Interface provides a common interface for all types of voice and video assets. For more information on how to start and operate the RIOS GUI, please review T*he RIOS Graphical User Interface Client Manual.* As it relates to video, the RIOS GUI functions as two parts to the encompassing video system:

- Selecting the IP video feeds the user would like to view
- Directing the IP video feeds to user who are permissioned to view them from the smartphone running the RIOS Lite Application. For more on this capability please reference the RIOS Lite User Manual.

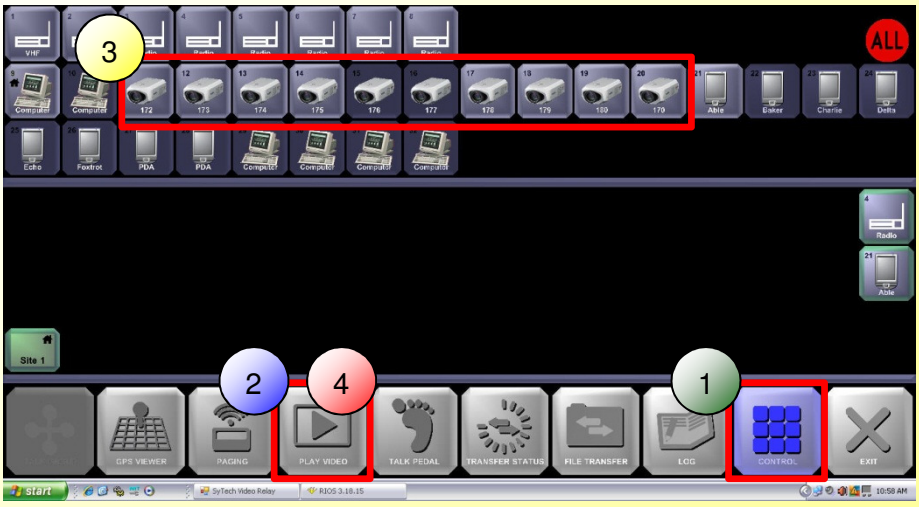
2.01 - Video Selection

Start the RIOS GUI from the Desktop as shown in Section 1 of *The RIOS Graphical User Interface Client Manual*. The default User ID is "1". After logging in, the user will see a screen similar to the one below.

Select Video within the RIOS GUI

1. Open the RIOS GUI from the Desktop.

2. Select **CONTROL**, **PLAY VIDEO** and the **Video Virtual Ports** you wish to view. Confirm the selection by selecting **PLAY VIDEO**. Shown below, the numbers indicate the selections.

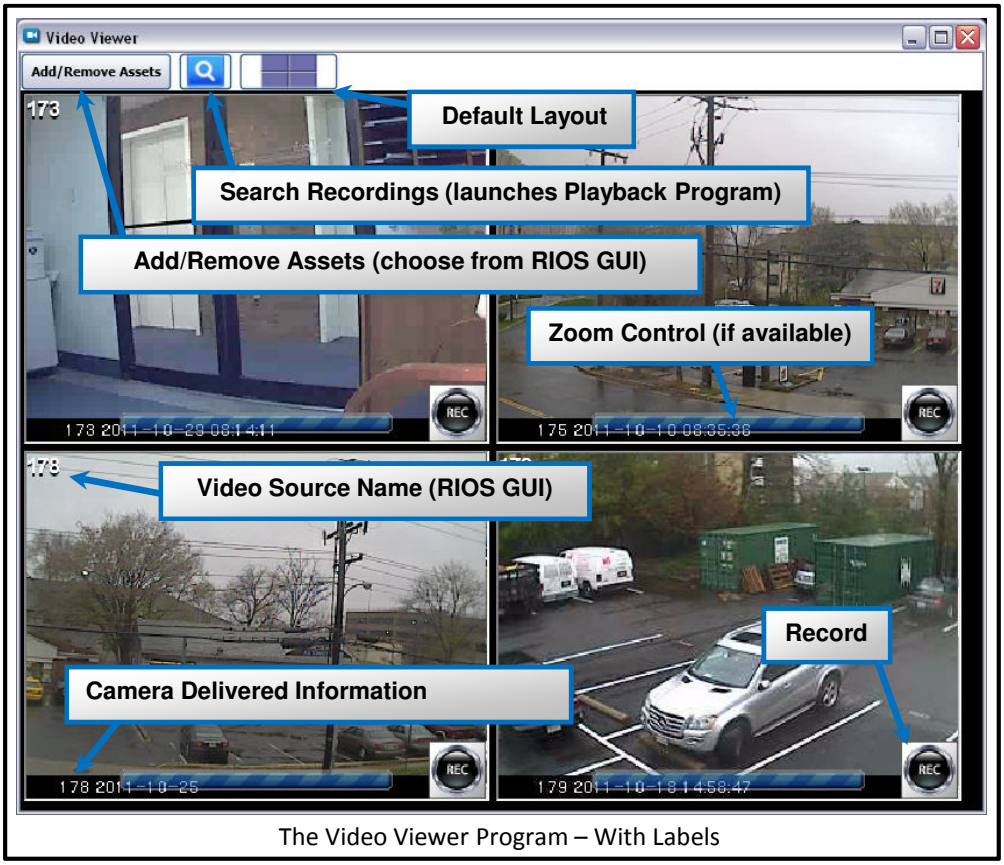


The Video Viewer program will launch with the selected video streams.

3.00 - The Video Playback Program

Upon selecting the connected video feeds from within the RIOS GUI and confirming the selection with the PLAY VIDEO Function, the RIOS Server will launch the Video Viewer Program as shown below.

In this example, four video feeds have been selected. The basic Video Viewer elements are indicated and labeled.



The Video Viewer Program – With Labels

Most elements within the Video Viewer are fairly self explanatory. Some notes are shown below:

Add/Remove Assets: allows the user to return to the RIOS GUI to add assets. If performed, it's a good idea to reselect all desired video feeds to restart the sessions.

Camera Delivered Information: Information received directly from the camera can be access by inputting the camera's IP address within a browser.

Default Layout: Used to resize images should the scale become adjusted or video feeds not fully connect.

Video Source Name: Name assignment input within the RIOS GUI. This can be changed within the RIOS GUI by selecting CONFIG, select the desired Video Port, select GENERAL within the menu, select the Keyboard icon to the right and input the desired name.

3.01 - The Video Control Menu

Control of each individual video feed is performed by accessing the Video Control Menu. Within the Video Control Menu the user can control various features and settings as shown below. To access the VCM, RIGHT CLICK on the desired video feed. The VCM below has been enlarged for this manual.

The Video Viewer Program – With Labels

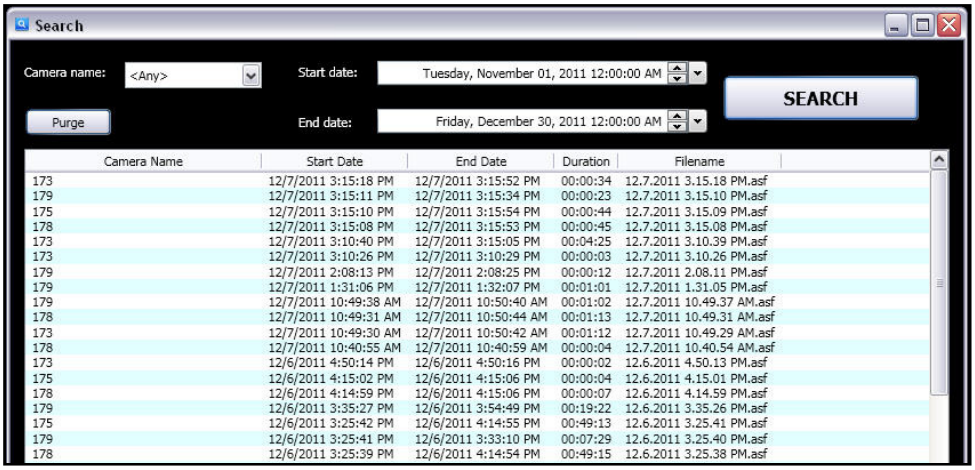
Connection Log: Displays the connection data of the individual vide feed.

Monitor Audio: Receives audio from IP cameras that feature microphone capability. Only one audio feed can be monitored at a time. If the video feeds currently recording the audio setting can not be disabled or enable—the user must stop the recording, enable/disable audio and begin a new recording session.

Automatic Reconnection: If the Video Relay does not receive video frames for 5 seconds a "No Video" indictor will be shown on the individual video feed. The program will attempt to reconnect the video feed after 20 seconds.

3.02 - Search and Playback

To view recorded video sessions, select the SERACH icon located within the top toolbar of the Video Viewer Program. The Playback Program will launch as shown below. The user can select a date range or leave it blank to search all video. Individual cameras can be selected and searched as well. After the user selects SEARCH, the available files will be shown as below.



The Search Function with Playback

To playback a video files simply double click on the selected file and the computer will launch the default video player for playback.

File Location: By default, the recorded video files are located on the server's hard drive at C:\\Program Files\RIOSClient\video. To move or delete these files the user can access them at this location.

Purge: If the recorded video files are deleted from within the Window folder the user can "purge" the files to empty the file links within the Search Program. The user must hit Search again to update the purged files that no longer exist. Afterwards, the deleted files and links will no longer appear in the search results.